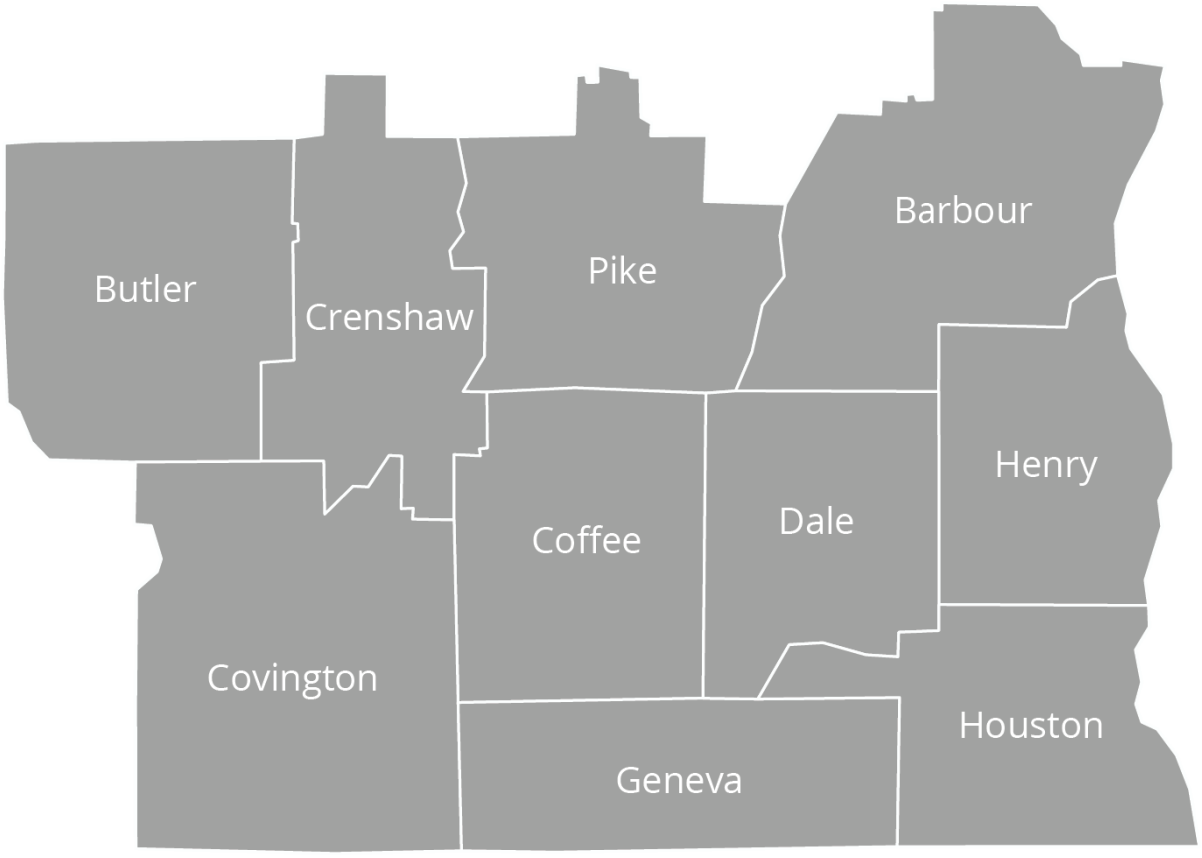
STATE OF THE WORKFORCE REPORT XV:

SOUTHEAST ALABAMAWORKS



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CONTENTS

Acknowledgments i

Summary iii

Labor Utilization and Supply Flows v

Workforce Supply 1

- Labor Force Activity 1
- Commuting Patterns 3
- Population 5
- Educational Attainment 6
- Underemployment and Available Labor 6
- Per Capita Income 7

Workforce Demand 12

- Industry Mix 12
- Job Creation and Net Job Flows 13
- High-Demand, Fast-Growing, High-Earning, and Sharp-Declining Occupations 14
- Skills and Skills Gap Analyses 19
- Education and Training Issues 22

Implications and Recommendations 25

SUMMARY

This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Southeast AlabamaWorks region and presents implications and recommendations.

Southeast AlabamaWorks had a 3.4 percent unemployment rate in March 2021, with 5,415 unemployed residents. An underemployment rate of 22.6 percent for 2020/2021 means that the region has an available labor pool of 40,110 that includes 34,695 underemployed workers who are looking for better jobs, but are unwilling to commute farther and longer for the jobs.

Southeast AlabamaWorks commute times and distances went up in 2020 from 2019, implying that congestion worsened. Net out-commuters rose from 1,812 in 2005 to 11,446 in 2018, but there is significant within-region commuting. Congestion is likely to worsen as the region recovers from the recent recession related to the COVID-19 pandemic. It is essential to continuously maintain and develop regional transportation infrastructure and systems to ensure that congestion does not slow economic development.

By sector, the top five employers in the region are manufacturing, health care and social assistance, retail trade, accommodation and food services, and educational services. These five industries provided 84,746 jobs, (63.5 percent of the regional total) in the first quarter of 2020. Three of these leading employers paid higher wages than the region's $3,789 monthly average. Economic development should continue to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries. Workforce development should also focus on preparing workers for these industries.

On average 5,387 jobs were created from second quarter 2001 to first quarter 2020; quarterly net job flows averaged only six jobs as job separations due to COVID-19 interrupts impacted net jobs. Job creation is the number of new jobs that are created either by new businesses or through expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.

The top five high-demand occupations are Combined Food Preparation and Serving Workers, Including Fast Food; Retail Salespersons; Laborers and Freight, Stock, and Material Movers, Hand; Heavy and Tractor-Trailer Truck Drivers; and Janitors and Cleaners, Except Maids and Housekeeping Cleaners.

The top five fast-growing occupations are Dental Laboratory Technicians; Orthotists and Prosthetists; Medical Appliance Technicians; Occupational Therapy Assistants; and Physician Assistants.

The top 50 high-earning occupations are mainly in management, health, and computer fields and have a minimum salary of $82,162. Seven of the top 10 are health occupations and the other three are in management.

Of the top 40 high-demand, the top 20 fast-growing, and 50 high-earning occupations, only one—Nurse Practitioners—belongs to all three categories. Three occupations are in high-demand and high-earning, six are both high-demand and fast-growing, and three are high-earning and fast-growing.

Of the region's 633 single occupations, 131 are expected to decline over the 2018 to 2028 period, with 20 occupations expected to sharply decline by at least three percent and lose a minimum of 10 jobs (for those with disclosed net change). Education and training for these 20 occupations should slow accordingly.

Skill and education requirements for jobs keep rising. Educational and training requirements for high-demand, fast-growing, and high-earning occupations demonstrate the importance of education in developing the future workforce. In the future, more jobs will require postsecondary education and training at a minimum.

The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. For Southeast AlabamaWorks the pace of training needs to increase for technical and basic (science) skills, and the scale of training should be raised for basic and social skills. Ideally, high school graduates should possess basic skills so that postsecondary and higher education can focus on more complex skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps.

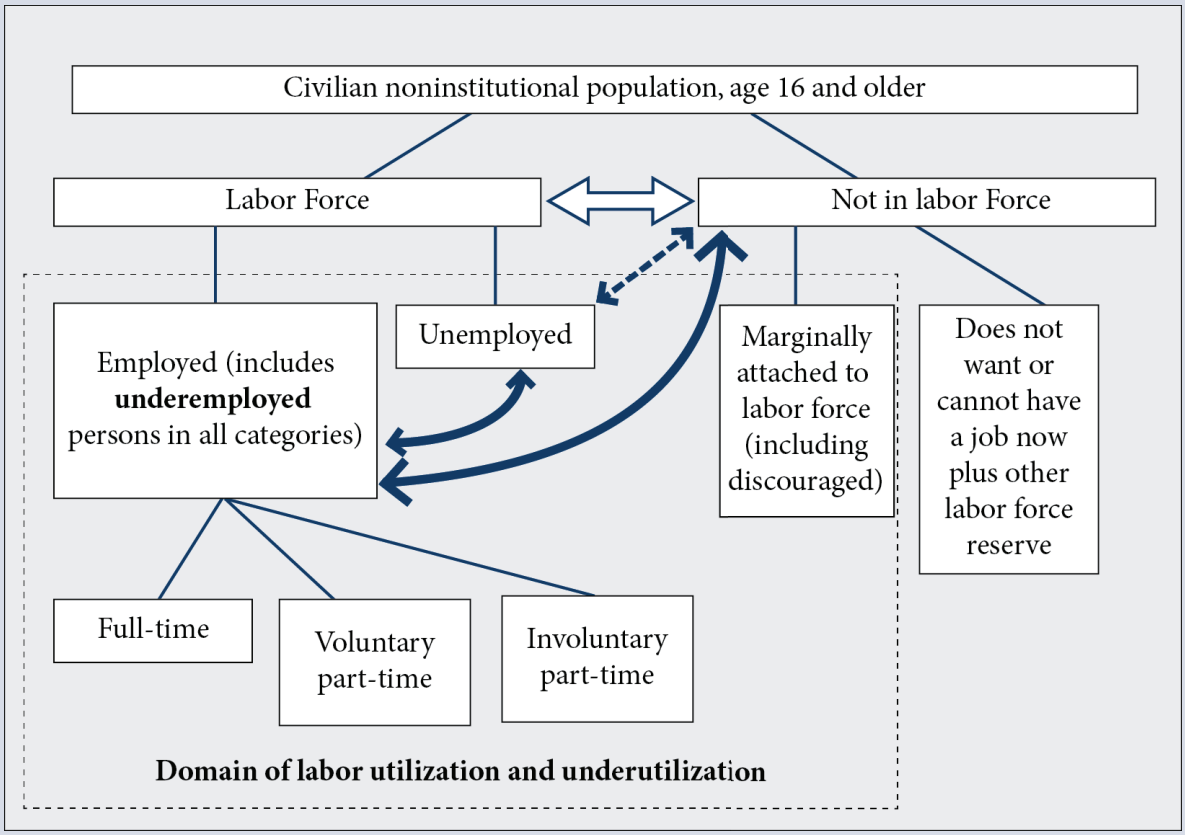
From a 2018 base, worker shortfalls of about 14,300 and 18,100 are expected for 2028 and 2030, respectively. By 2040 the worker shortfall will reach to about 29,500. Worker skills and the projected shortfall must be a high priority through 2040. Worker shortfalls for critical occupations will also need to be addressed continuously. Strategies to address skill needs and worker shortfalls might include:
(i) improving education and its funding;
(ii) introducing economic opportunities that attract new and younger residents; (iii) lowering the high school dropout rate; (iv) focusing on hard-to-serve populations (e.g. out-of-school youth); (v) continuing and enhancing programs to assess, retrain, and place dislocated workers; (vi) encouraging older worker participation in the labor force; and (viii) facilitating in-commuting.

Improving education is important because
(i) a highly educated and productive workforce is a critical economic development asset;
z(ii) productivity rises with education;
(iii) educated people are more likely to work;
and (iv) it yields high private and social rates of return on investment. Workforce development must view all of education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and should provide for flexibility as workforce needs and priorities change over time. Publicizing both private and public returns to education can encourage individuals to raise their own educational attainment levels, while also promoting public and legislative support for education.

The higher incomes that come with improved educational attainment and work skills will help to increase personal income for the region as well as raise additional local (county and city) tax revenues. This is important, especially for a region that has low per capita income and a declining population and labor force.

Together, workforce development and economic development can build a strong, well-diversified Southeast AlabamaWorks economy. Indeed, we cannot achieve success in one without the other.

LABOR UTILIZATION AND SUPPLY FLOWS



Source: Addy et al[1] and Canon et al[2]

The chart above presents labor utilization and supply flows that explain labor market dynamics in view of recent study findings. The civilian noninstitutional population, age 16 and above, includes participants in the labor force and nonparticipants. The labor force is made of employed and unemployed persons; the unemployed do not have a job but are actively searching for work. Employed persons include fully employed and underemployed persons in all categories of work (full-time, voluntary part-time, and involuntary part-time). Nonparticipants in the labor force include retirees (voluntary and involuntary), people who do not want to or cannot work for various reasons (e.g., disability, caring for family members, in school or training, etc.), discouraged workers, and other labor force reserves. It has been suggested that a subgroup of nonparticipants referred to as the "waiting group" is more likely than the rest of the nonparticipants to take a job if wages and conditions are satisfactory, but people in this group do not actively search for work. It has been shown that between January 2003 and August 2013, the flow of nonparticipants into employment was 1.6 times that of unemployed persons transitioning into employment, which may be due to the presence of the waiting group.[1,2] Nonparticipant flows to employment are larger in services, management, and professional occupations while unemployed flows to employment are higher in physically intensive occupations such as construction workers and miners. Industry effects should vary by the type and number of occupations they contain. This finding enhances the common understanding of labor market dynamics and influences workforce availability and skills gap analyses. Skill and spatial mismatches present additional complications to labor market dynamics. For example, unemployment can coexist with significant job availability.

[1]Addy, S.N., Bonnal, M., and Lira, C. (2012). Towards a More Comprehensive Measure of Labor Underutilization: The Alabama Case, *Business Economics,* vol. 47(3) .
[2]Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was "Unemployed", *The Regional Economist*, January.

WORKFORCE SUPPLY

Labor Force Activity

The labor force includes all persons in the civilian noninstitutional population who are age 16 and over and who have a job or are actively looking for one. Typically, those who have no job and are not looking for one are not included (e.g. students, retirees, the disabled, and discouraged workers). Table 6.1 shows labor force information on Southeast AlabamaWorks region and its 10 counties for 2020 and March 2021. Alabama labor force

Table 6.1 Southeast AlabamaWorks Labor Force Information

	2020 Annual Average			
	Labor Force	Employed	Unemployed	Rate (%)
Barbour	8,587	7,982	605	7.0
Butler	9,056	8,255	801	8.8
Coffee	21,502	20,558	944	4.4
Covington	15,172	14,434	738	4.9
Crenshaw	6,253	5,896	357	5.7
Dale	20,710	19,701	1,009	4.9
Geneva	10,835	10,391	444	4.1
Henry	6,814	6,487	327	4.8
Houston	46,358	43,861	2,497	5.4
Pike	15,636	14,864	772	4.9
Southeast ALWorks	160,923	152,429	8,494	5.3
Alabama	2,230,118	2,099,062	131,056	5.9
U.S.	160,742,000	147,795,000	12,947,000	8.1

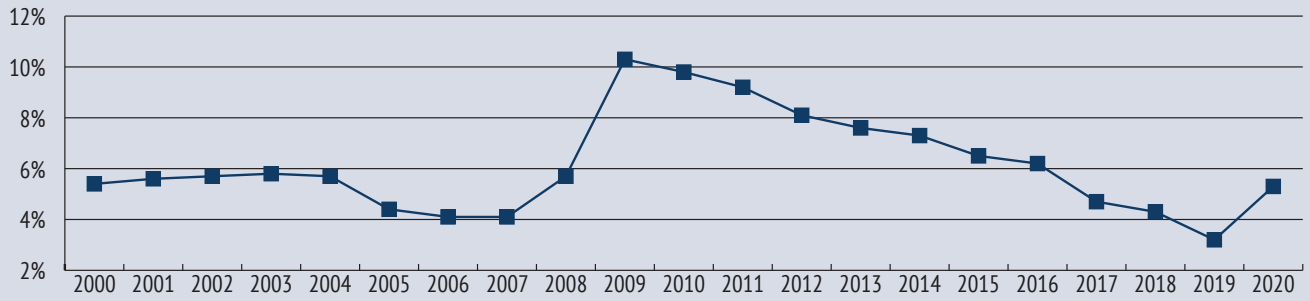
	March 2021			
	Labor Force	Employed	Unemployed	Rate (%)
Barbour	8,240	7,776	464	5.6
Butler	8,829	8,365	464	5.3
Coffee	21,228	20,652	576	2.7
Covington	14,814	14,358	456	3.1
Crenshaw	6,103	5,897	206	3.4
Dale	20,625	19,962	663	3.2
Geneva	10,635	10,336	299	2.8
Henry	6,740	6,526	214	3.2
Houston	45,980	44,428	1,552	3.4
Pike	15,942	15,421	521	3.3
Southeast ALWorks	159,136	153,721	5,415	3.4
Alabama	2,213,954	2,138,166	75,788	3.4
U.S.	160,397,000	150,493,000	9,905,000	6.2

Note: Not seasonally adjusted.
Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics.

information is available from the Labor Market Information (LMI) Division of the Alabama Department of Labor. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.

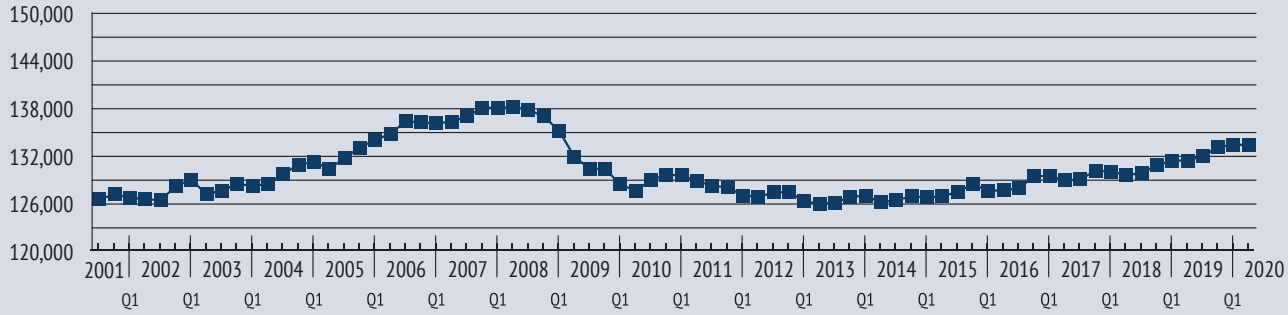
After the 2007 economic recession raised regional county unemployment rates to unpreceded levels, regional and state economic recovery efforts lowered unemployment rates to record low levels until the COVID-19 pandemic led to an economic recession in 2020. The emergence of the pandemic disrupted economic activities in the first quarter of 2020 leading to a sharp increase in unemployment in the region. As personal protection equipment and testing became more available and Congress provided relief through the CARES Act, businesses and employers resumed operations albeit at a staggered pace. This had the effect of lowering unemployment significantly and annual county unemployment ranged between 4.1 percent to 8.8 percent for 2020 (5.3 percent for the region). The regional unemployment rate was above the statewide rate of 5.9 percent. A strong economic recovery continued in the region fueled by the availability of COVID-19 vaccines and more economic relief through the Consolidated Appropriations

Figure 6.1 Southeast AlabamaWorks Unemployment Rate



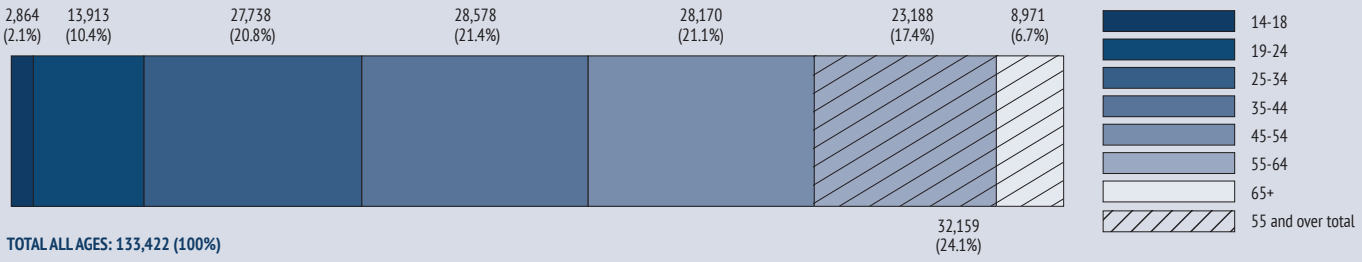
Source: Alabama Department of Labor.

Figure 6.2 Southeast AlabamaWorks Nonagricultural Employment



Source: Alabama Department of Labor and U.S. Census Bureau.

Figure 6.3 Nonagricultural Employment - Workers by Age Group (First Quarter2020)



Source: U.S. Census Bureau, Local Employment Dynamics Program.
Note: Rounding errors may be present. Nonagricultural employment is by place of work, not residence.

Act, 2021 and American Rescue Plan Act, 2021. By end of March 2021, county unemployment rates declined significantly and ranged from 2.7 percent to 5.6 percent, with 3.4 percent for the region. The unemployment rates were lowest in Coffee County and highest in Barbour. Only two of the seven counties—Barbour and Butler—had higher unemployment rates than Alabama's 3.4 percent.

Annual unemployment rates from 2000 to 2020 are shown in Figure 6.1. The 2001 national economic recession kept the region's unemployment rate at about 6.0 percent through 2004, but successful state and local economic development efforts brought the rate down to 4.1 percent in 2006 and 2007. However, the 2007 economic recession raised regional unemployment to 10.3 percent in 2009, the highest in the entire period, before gradually declining to 4.3 percent in 2018. In 2019, the regional unemployment further declined to a record low of 3.2 percent as the region enjoyed the longest economic expansion in decades. The regional unemployment rate rose to 5.3 percent in 2020 due to massive job losses caused by the COVID-19 led recession. The unemployment rate has been falling at a slow pace as COVID-19 persistence and supply chain backlogs and interruptions continue to limit business operations and labor supply. Year-to-date monthly labor force data portray a significantly lower regional unemployment rate for 2021 than seen in 2020 but the lingering supply-chain limitations and COVID-19 persistence are likely to keep regional unemployment above the recession level at least through 2022.

Quarterly nonagricultural employment in Southeast AlabamaWorks averaged 130,186 from the second quarter of 2001 to the first quarter of 2020 (Figure 6.2). The number of jobs declined from 138,228 in the first quarter of 2008 due to the 2007 recession and continued to drop long after the recession. By the first quarter of 2013, nonagricultural employment had dropped to 126,023 but gradually improved to 133,499 in the fourth quarter of 2019 before slightly dropping to 133,419 in the first quarter of 2020 as COVID-19 led recession took effect.

Figure 6.3 shows worker distribution by age in Southeast AlabamaWorks for the first quarter of 2020. The region's workforce is older than the state's and all the other AlabamaWorks regions' workforce. Workers age 55 and over are 24.1 percent of the region's nonagricultural employment compared to 22.8 percent for Alabama. Those who are age 65 and over constitute 6.7 percent of nonagricultural employment compared to 6.0 percent for the state. Labor force participation of younger residents must increase to meet long term occupational projections for growth and replacement or older workers may have to work longer.

Commuting Patterns

In 2005, there were 21,130 in-commuters and 22,942 out-commuters in Southeast AlabamaWorks, resulting in a net of 1,812 out-commuters (Table 6.2). Out-commuters grew faster than in-commuters over the years, raising net out-commuting to over 11,000 in 2013. By 2018 there were 11,446 net out-commuters. There is significant commuting inside the region as well, with Houston County having the largest in- and out-commuters. The leading workforce area destinations for Southeast AlabamaWorks residents were Central (13,080) and Central Six (4,911). Most in-commuters to the region were from Central AlabamaWorks (7,247) and Southwest (4,721). About 7,900 of Southeast AlabamaWorks workers in-commute from other states with 3,522 coming from Florida and 3,213 from Georgia. In contrast, over 11,400 Southeast residents work out of the state; 5,977 and 3,951 commute to Georgia and Florida, respectively.

Table 6.2 also shows that the region's average commute time and distance were up in 2020 compared to 2019, suggesting that congestion worsened in the region. Traffic might have increased in 2021 as COVID-19 movement restrictions eased. As the region's economy recovers and the pandemic is brought into a manageable state, congestion is likely to pose challenges in some areas like the Dothan metro. It is essential that the region's transportation infrastructure and systems be continuously maintained and developed to encourage the uninterrupted mobility of workers and goods.

Table 6.2 Southeast AlabamaWorks Commuting Patterns

Year	Inflow	Outflow
2005	21,130	22,942
2006	20,933	24,457
2007	24,941	29,306
2008	27,182	29,563
2009	25,116	31,348
2010	26,263	32,656
2011	27,158	35,004
2012	25,820	35,120
2013	25,129	36,244
2014	26,002	35,284
2015	24,353	34,256
2016	24,572	35,105
2017	25,583	36,739
2018	25,895	37,341

Southeast ALWorks Counties	Inflow, 2018		Outflow, 2018	
	Number	Percent	Number	Percent
Barbour	3,595	5.8	5,241	7.2
Butler	3,036	4.9	4,630	6.3
Coffee	8,023	13.0	10,429	14.2
Covington	6,978	11.3	5,561	7.6
Crenshaw	1,670	2.7	3,911	5.3
Dale	6,743	10.9	10,745	14.7
Geneva	2,165	3.5	6,692	9.1
Henry	1,727	2.8	5,744	7.8
Houston	20,496	33.2	14,092	19.3
Pike	7,307	11.8	6,141	8.4

	Percent of Workers					
Average commute time (one-way)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Less than 20 minutes	54.9	54.8	52.1	50.1	49.6	49.0
20 to 40 minutes	24.8	22.5	26.2	25.0	27.5	26.8
40 minutes to an hour	9.0	9.9	8.1	8.5	9.5	10.3
More than an hour	3.1	4.1	3.3	4.7	3.9	4.3
Average commute distance (one-way)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Less than 10 miles	48.6	44.7	46.9	41.6	45.1	42.9
10 to 25 miles	29.0	29.8	27.8	32.7	29.2	29.7
25 to 45 miles	14.7	14.7	14.1	14.0	13.4	14.0
More than 45 miles	5.8	7.7	7.9	8.2	9.6	10.4

Note: Rounding errors may be present.
Source: U.S. Census Bureau; Alabama Department of Labor; and Center for Business and Economic Research, The University of Alabama.

Population

The regional population count in 2010 was 378,812, a 6.7 percent increase from the 2000 Census (Table 6.3). The region's population growth was slower than Alabama's 7.5 percent for the decade. The population shrank in two counties—Barbour and Butler—and grew in the other eight. Coffee County growth rate was the fastest, followed by Houston and Pike. However, the 2020 decennial census results show that the region's population grew by 0.8 percent from 2010, a dismal gain compared to Alabama's 5.1 percent growth. Population only grew in Coffee, Houston, and Pike counties and dropped in all the others. Butler and Barbour counties led in population decline.

Table 6.4 shows the region's population decennial counts, estimates, and projections by age group up to 2040. The population aged 65 and over is expected to grow rapidly, as more baby boomers turn 65 years old. Unfortunately, the prime working age group (20-64) population will decline through 2040, while the growth rate of youth (0-19) population will be relatively low. From a 2018 base, the growth of the youth (0-19) population will lag that of the total population through 2040. This poses a challenge for workforce development. If employment growth outpaces labor force growth, as is expected in the long term, communities that experience rapid job gains may need to consider investments in amenities and infrastructure to attract new residents.

Table 6.3 Southeast AlabamaWorks Population

County	1990 Census	2000 Census	2010 Census	2020 Census	Change 2000-2010		Change 2010-2020	
					Number	Percent	Number	Percent
Barbour	25,417	29,038	27,457	25,223	-1,581	-5.4	-2,234	-8.1
Butler	21,892	21,399	20,947	19,051	-452	-2.1	-1,896	-9.1
Coffee	40,240	43,615	49,948	53,465	6,333	14.5	3,517	7.0
Covington	36,478	37,631	37,765	37,570	134	0.4	-195	-0.5
Crenshaw	13,635	13,665	13,906	13,194	241	1.8	-712	-5.1
Dale	49,633	49,129	50,251	49,326	1,122	2.3	-925	-1.8
Geneva	23,647	25,764	26,790	26,659	1,026	4.0	-131	-0.5
Henry	15,374	16,310	17,302	17,146	992	6.1	-156	-0.9
Houston	81,331	88,787	101,547	107,202	12,760	14.4	5,655	5.6
Pike	27,595	29,605	32,899	33,009	3,294	11.1	110	0.3
Southeast	335,242	354,943	378,812	381,845	23,869	6.7	3,033	0.8
Alabama	4,040,587	4,447,100	4,779,736	5,024,279	332,636	7.5	244,543	5.1
United States	248,709,873	281,421,906	308,745,538	331,449,281	27,323,632	9.7	22,703,743	7.4

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Table 6.4 Population by Age Group and Projections

Age Group	2000	2010	2018	2028	2030	2035	2040
0-19	99,539	99,724	94,269	96,767	96,377	95,660	95,877
20-24	22,517	25,330	25,314	24,999	25,020	25,777	25,655
25-29	23,073	24,775	25,562	22,963	23,110	23,366	24,205
30-34	22,950	22,889	22,978	22,991	23,094	23,605	23,910
35-39	26,195	23,690	23,002	22,595	22,687	23,111	23,701
40-44	26,627	23,641	21,991	23,046	22,353	22,678	23,181
45-49	24,599	26,680	23,959	23,196	24,088	22,320	22,709
50-54	23,261	27,014	24,088	22,008	21,626	23,840	22,141
55-59	18,818	24,750	25,609	22,215	22,191	21,354	23,567
60-64	16,169	23,199	25,015	22,973	21,824	21,889	21,105
65+	51,195	57,120	69,451	81,298	83,479	84,617	84,780
20-64 Total	**204,209**	**221,968**	**217,518**	**206,985**	**205,995**	**207,942**	**210,175**
Total Population	**354,943**	**378,812**	**381,238**	**385,050**	**385,851**	**388,219**	**390,832**
Change from 2018							
0-19				2.6%	2.2%	1.5%	1.7%
20-64				-4.8%	-5.3%	-4.4%	-3.4%
Total Population				1.0%	1.2%	1.8%	2.5%

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Educational Attainment

Educational attainment of Southeast AlabamaWorks residents who were 25 years old and over in 2015 to 2019 is shown in Table 6.5 and Figure 6.6. Of this population, 83.8 percent graduated from high school and 18.8 percent held a bachelor's or higher degree. This is below the state's educational attainment of 86.2 percent of the population with a high school diploma and 25.5 percent with a bachelor's degree or higher. Dale County had the highest percentages of high school graduates, followed by Houston and Coffee. Pike County had the highest percentage of people with a bachelor's degree or higher followed by Coffee and Houston. Barbour County had the lowest educational attainment followed by Crenshaw for high school graduates and Geneva for bachelor's degrees or higher. Educational attainment is important as skills rise with education, and high-wage jobs demand more skill sets.

Underemployment and Available Labor

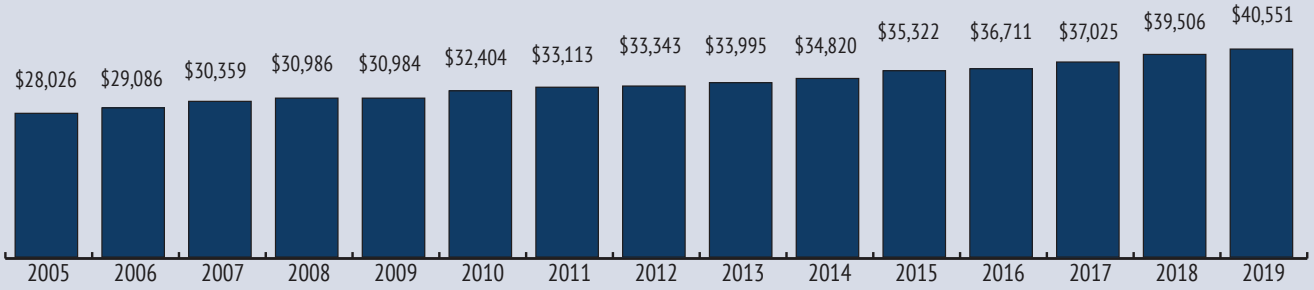
Labor force data are often limited to information on the employed and the unemployed that is available from government sources. However, this information is not complete from the perspective of employers. New or expanding employers are also interested in underemployment because current workers are potential employees. In fact, experience requirements in job ads are evidence that many prospective employers look beyond the unemployed for workers.

Workers in occupations that underutilize their experience, training, and skills are underemployed. These workers might look for other work because their current wages are below what they believe they can earn or because they do not wish to be underemployed. Underemployment occurs for various reasons including (i) productivity growth, (ii) spousal employment and income, and (iii) family constraints or personal preferences. Underemployment is unique in different areas because of the various contributing factors

Per Capita Income

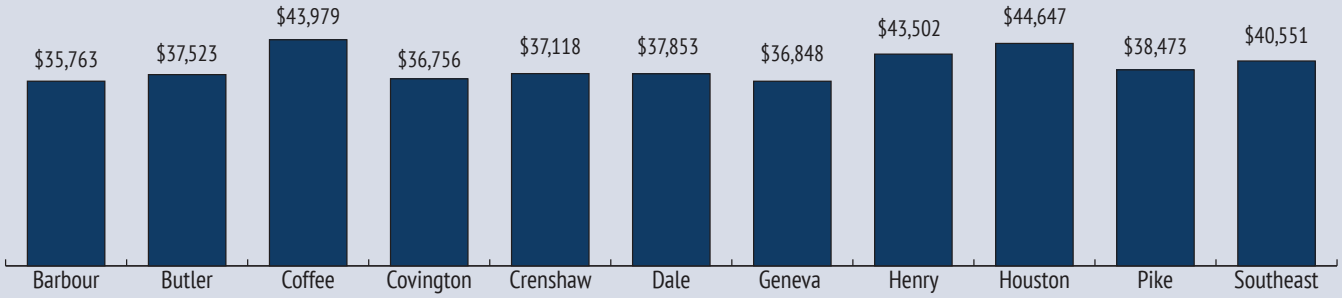
Per capita income (PCI) in Southeast AlabamaWorks was $40,551 in 2019 (Figure 6.4), up 44.7 percent from 2005, but $3,594 or 8.1 percent lower than state average of $44,145. Per capita income by county for the region is shown in Figure 6.5. Houston County had the highest PCI with $44,647, followed by Coffee at $43,979 and Henry with $43,502. Barbour County had the lowest PCI with $35,763 followed by Covington at $36,756. Only Houston County had PCI above the state average.

Figure 6.4 Southeast AlabamaWorks Per Capita Income



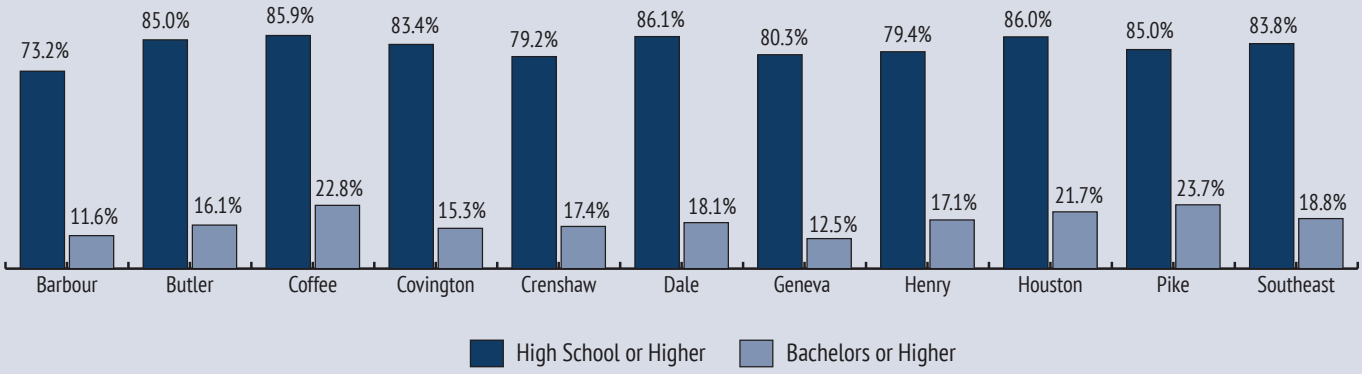
Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama.

Figure 6.5 County Per Capita Income, 2019



Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama.

Figure 6.6 Educational Attainment, 2015-2019



Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau, American Community Survey.

Table 6.5 Educational Attainment of Population 25 Years and Over, 2015-2019

	Barbour	Butler	Coffee	Covington	Crenshaw	Dale	Geneva	Henry	Houston	Pike	Southeast
Total	17,964	13,819	35,293	26,324	9,690	33,509	18,660	12,168	72,199	19,298	258,924
No schooling completed	391	339	391	277	183	421	289	221	1,031	234	3,777
Nursery to 4th grade	226	18	93	134	15	114	291	83	209	142	1,325
5th and 6th grade	128	60	286	299	137	292	265	173	436	312	2,388
7th and 8th grade	779	224	825	781	378	609	548	345	1,294	220	6,003
9th grade	737	328	865	672	159	461	393	429	1,393	495	5,932
10th grade	959	342	858	983	443	828	739	548	2,059	354	8,113
11th grade	1,060	429	994	881	440	1,175	680	452	2,092	547	8,750
12th grade, no diploma	532	326	655	339	261	751	467	258	1,562	597	5,748
High school graduate/ equivalent	6,396	6,244	9,615	9,819	3,830	10,819	6,714	3,961	22,558	6,899	86,855
Some college, less than 1 year	1,282	453	2,519	1,874	412	2,649	1,388	779	4,879	1,133	17,368
Some college, 1+ years, no degree	2,100	1,809	5,970	3,680	1,172	5,963	2,658	1,746	12,041	2,986	40,125
Associate degree	1,294	1,017	4,178	2,565	573	3,349	1,897	1,097	6,973	799	23,742
Bachelor's degree	1,367	1,343	5,394	2,599	1,234	4,047	1,419	1,250	9,682	2,718	31,053
Master's degree	495	726	2,200	1,078	377	1,688	834	688	4,385	1,277	13,748
Professional school degree	128	121	252	204	39	231	75	109	1,120	239	2,518
Doctorate degree	90	40	198	139	37	112	3	29	485	346	1,479

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau, American Community Survey.

combined with each area's economic, social, and geographic characteristics.

The existence of underemployment identifies economic potential that is not being realized. It is extremely difficult to measure this economic potential because of uncertainties regarding additional income that the underemployed can bring to an area. It is clear, however, that underemployment provides opportunities for selective job creation and economic growth. A business that needs skills prevalent among the underemployed could locate in areas with such workers regardless of the local unemployment rates. A low unemployment rate, which may falsely suggest limited labor availability, is therefore not a hindrance to the business.

The underemployed present a significant labor pool because they tend to respond to job opportunities that they believe are better for reasons that include (i) higher income, (ii) more benefits, (iii) superior terms and conditions of employment, and (iv) a better match with skills, training, and experience. The underemployed also create opportunities for entry level workers as they leave lower-paying jobs for better-paying ones. Even if their previously held positions are lost or not filled (perhaps due to low unemployment or adverse economic conditions), there is economic growth in gaining higher-paying jobs. Such income growth boosts consumption, savings, and tax collections. Quantifying the size of the underemployed is a necessary first step in considering this group for economic development, workforce training, planning, and other purposes. It is important to note that the underemployed can take on more responsibilities and earn more income, but they cannot be counted on to address possible future worker shortages as they are already employed.

Southeast AlabamaWorks had an underemployment rate of 22.6 percent in 2020/2021. Applying this rate to March 2021 labor force data means that 34,695 employed residents were underemployed (Table 6.6). Adding the underemployed workers to the unemployed residents gives a total available labor pool of 40,110 for the region. This larger labor pool is 7.4 times the number of unemployed and is a more realistic measure of the available labor pool in the region. Prospective employers must be able to offer the underemployed higher wages, better benefits or terms of employment, or some other incentives to induce them to change jobs. County underemployment rates ranged from 13.0 percent for Geneva County to 32.2 percent for Barbour. Crenshaw County had the smallest available labor pool while Houston had the largest. The underemployed workers are looking for better jobs, but are not willing to commute farther and longer. For the one-way commute, 39.2 percent are prepared to travel for 20 or more minutes longer and 32.0 percent will go 20 or more extra miles for a better job. In contrast, 40.6 percent of all workers are willing to commute 20 or more minutes and 33.2 percent will go 20 or more miles for the same.

The underemployment rates for counties, AlabamaWorks regions, and the state were determined from an extensive survey of the state's workforce. A total of 1,260 complete responses were obtained from Southeast AlabamaWorks. Over 53 percent (669 respondents) were employed, of whom 151 stated that they were underemployed. The primary reasons given for being underemployed listed in order of popularity are low wages at the available jobs; a lack of job opportunities in their area; living too far from jobs; other family or personal obligations; childcare responsibilities; owning a house in their area; and retirement. Ongoing economic development efforts can help in this regard. Nonworkers cite retirement and disability or other health concerns as the main reasons for their status, but some also cite social security limitations as an additional key factor. Such workers may become part of the labor force if these

Table 6.6 Underemployed and Available Labor by County

	Southeast	Barbour	Butler	Coffee	Covington	Crenshaw	Dale	Geneva	Henry	Houston	Pike
Labor force	159,136	8,240	8,829	21,228	14,814	21,502	20,625	10,635	6,740	45,980	15,942
Employed	153,721	7,776	8,365	20,652	14,358	5,897	19,962	10,336	6,526	44,428	15,421
Underemployment rate	22.6%	32.2%	15.9%	20.6%	23.5%	21.6%	20.8%	13.0%	25.0%	23.3%	28.6%
Underemployed workers	34,695	2,504	1,333	4,252	3,368	1,272	4,158	1,340	1,632	10,365	4,406
Unemployed	5,415	464	464	576	456	206	663	299	214	1,552	521
Available labor pool	**40,110**	**2,968**	**1,797**	**4,828**	**3,824**	**1,478**	**4,821**	**1,639**	**1,846**	**11,917**	**4,927**

Note: Rounding errors may be present. Based on March 2021 labor force data and 2020/2021 underemployment rates.
Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

problems can be addressed. Indeed, a 2014 study found that the flow of labor force nonparticipants to employment status was 60.0 percent more than that of unemployed workers who gained employment. This implies that the region's available labor pool could be larger than estimated in this report.

A comparison of underemployed workers to the overall workforce in Southeast AlabamaWorks shows that:

- Fewer work full-time and more of the part-timers would like to work full-time.
- More hold multiple jobs.
- They commute shorter distances and lesser times.
- More work in community and social services; arts, design, entertainment, sports, and media; healthcare support; food preparation and serving related; building and grounds cleaning and maintenance; personal care and service; sales and related; farming, fishing, and forestry; production; and other occupations.
- By industry more are in agriculture, forestry, fishing, and hunting; manufacturing; retail trade; information; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; and public administration.
- They have shorter job tenure and earn less.
- More were laid-off or furloughed from their jobs in the past 3 months and fewer have been recalled to work.
- Fewer believe their jobs fit well with their education and training, skills, and experience.
- More believe they are qualified for a better job based on their education and training, and skills.
- More would leave their current jobs for higher income even if the offer pays up to 5 percent more.
- Fewer are willing to extend their commute time and distance for a better job.
- Fewer are satisfied with their current jobs.
- More have sought better jobs in the preceding quarter.
- More are willing to train for a better job.
- Fewer are married and more are female.
- Their median age (53) is the same as that of all workers.
- More are African Americans or other nonwhite ethnicities and fewer are Hispanic.
- They have slightly lower educational attainment.

Table 6.7 shows the detailed survey results on job satisfaction and willingness to train. Responses for overall job satisfaction as well as various aspects of the job were obtained. In general, most of the region's workers (79.2 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with the work they do and least satisfied with their earnings. Fewer (59.6 percent) underemployed workers are satisfied with their jobs. The underemployed are also most satisfied with the work they do and most dissatisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being more willing (63.4 percent versus 54.7 percent). However, the willingness to train is strongly influenced by who pays for the cost of training. Workers typically do not wish to pay for the training, and so their willingness is highest when the cost is fully borne by the government and lowest when the trainee must pay the full costs. Underemployed workers are more willing to train for a new or better job irrespective of who bears the cost of training. The results show that workers expect the government to bear at least part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

[3] Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was "Unemployed", *The Regional Economist*, January.

Table 6.7 Job Satisfaction and Willingness to Train (Percent)

Job Satisfaction	Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed					
Overall	3.9	4.2	12.7	25.7	53.5
Earnings	7.3	9.6	18.4	26.0	38.3
Retention	2.7	4.8	7.0	16.7	67.1
Work	1.8	2.1	8.1	22.1	65.6
Hours	2.7	4.0	11.2	20.3	61.7
Shift	3.3	2.8	7.6	17.8	68.0
Conditions	3.4	3.4	11.7	24.8	56.4
Commuting Distance	4.6	4.2	11.2	14.2	65.6
Underemployed					
Overall	9.3	8.0	23.2	23.2	36.4
Earnings	18.5	18.5	20.5	20.5	21.9
Retention	5.3	11.3	18.5	18.5	51.0
Work	4.6	4.0	11.9	26.5	53.0
Hours	8.6	6.6	15.9	16.6	52.3
Shift	9.3	6.0	11.9	16.6	55.6
Conditions	8.6	7.3	19.2	27.8	35.8
Commuting Distance	8.0	7.3	11.3	11.9	61.6

Willingness to Train	Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed					
For a new or better job	22.1	5.5	15.5	11.3	43.4
If paid by trainee	40.1	21.0	20.6	5.7	8.6
If paid by trainee and government	13.4	10.2	36.9	17.2	20.4
If paid by government	4.3	3.9	10.0	17.2	63.8
Underemployed					
For a new or better job	16.0	1.5	18.3	9.9	53.4
If paid by trainee	33.6	22.7	18.2	6.4	10.9
If paid by trainee and government	9.1	7.3	39.1	15.5	27.3
If paid by government	0.0	4.6	9.1	18.2	68.2

Note: Rounding errors may be present.
Source: Center for Business and Economic Research, The University of Alabama.

WORKFORCE DEMAND

Industry Mix

The manufacturing sector was the largest employer in Southeast AlabamaWorks with 23,740 jobs in the first quarter of 2020 (Table 6.8). Rounding out the top five industries by employment are health care and social assistance, retail trade, accommodation and food services, and educational services. These five industries provided 84,746 jobs, or 63.5 percent of the regional total. The average monthly wage across all industries in the region was $3,789; the three leading employers—manufacturing, health care and social assistance, and educational services—paid more than the average. The highest average monthly wages were in utilities at $10,105; finance and insurance at $5,737; wholesale trade at $4,944; professional, scientific, and technical services at $4,892; and mining at $4,877. Arts, entertainment, and recreation paid the least at $1,428. New hire monthly earnings averaged $2,277, or 60.1 percent of the region's average monthly wage. Utilities had the highest average monthly new hire wages with $5,131, followed by finance and insurance at $4,036, and professional, scientific, and technical services at $3,956. At $960, arts, entertainment, and recreation paid newly hired workers the least.

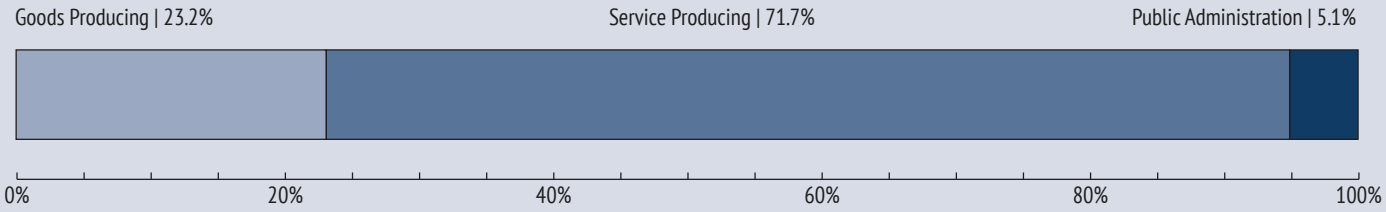
By broad industry classification, service providing industries accounted for 71.7 percent of jobs in the first quarter of 2020 (Figure 6.7). Goods producing industries were next with 23.2 percent, and public administration accounted for 5.1 percent. The distribution is for all nonagricultural jobs in the Southeast AlabamaWorks region, but there is significant variation by county.

Table 6.8 Industry Mix (First Quarter 2020)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture,Forestry,Fishing and Hunting	2,337	1.75%	14	$3,460	$2,571
21 Mining	197	0.15%	20	$4,877	$2,751
22 Utilities	2,289	1.72%	15	$10,105	$5,131
23 Construction	4,657	3.49%	10	$4,033	$3,086
31-33 Manufacturing	23,740	17.79%	1	$4,183	$2,908
42 Wholesale Trade	4,974	3.73%	9	$4,944	$3,594
44-45 Retail Trade	16,938	12.70%	3	$2,752	$1,567
48-49 Transportation and Warehousing	7,072	5.30%	6	$4,155	$2,829
51 Information	944	0.71%	17	$4,679	$1,834
52 Finance and Insurance	3,121	2.34%	12	$5,737	$4,036
53 Real Estate and Rental and Leasing	1,317	0.99%	16	$3,854	$2,875
54 Professional,Scientific,and Technical Services	3,952	2.96%	11	$4,892	$3,956
55 Management of Companies and Enterprises	735	0.55%	19	$4,588	$2,599
56 Administrative and Support and Waste Management and Remediation Services	6,887	5.16%	7	$2,922	$1,954
61 Educational Services	11,496	8.62%	5	$3,854	$2,367
62 Health Care and Social Assistance	20,613	15.45%	2	$3,970	$2,675
71 Arts,Entertainment,and Recreation	846	0.63%	18	$1,428	$960
72 Accommodation and Food Services	11,959	8.96%	4	$1,463	$1,064
81 Other Services (except Public Administration)	2,563	1.92%	13	$2,918	$1,762
92 Public Administration	6,780	5.08%	8	$2,949	$1,882
ALL INDUSTRIES	**133,419**	**100.00%**		**$3,789**	**$2,277**

Note: Rounding errors may be present.
Source: Alabama Department of Labor and U.S. Census Bureau.

Figure 6.7 Southeast AlabamaWorks Employment Distribution (First Quarter 2020)

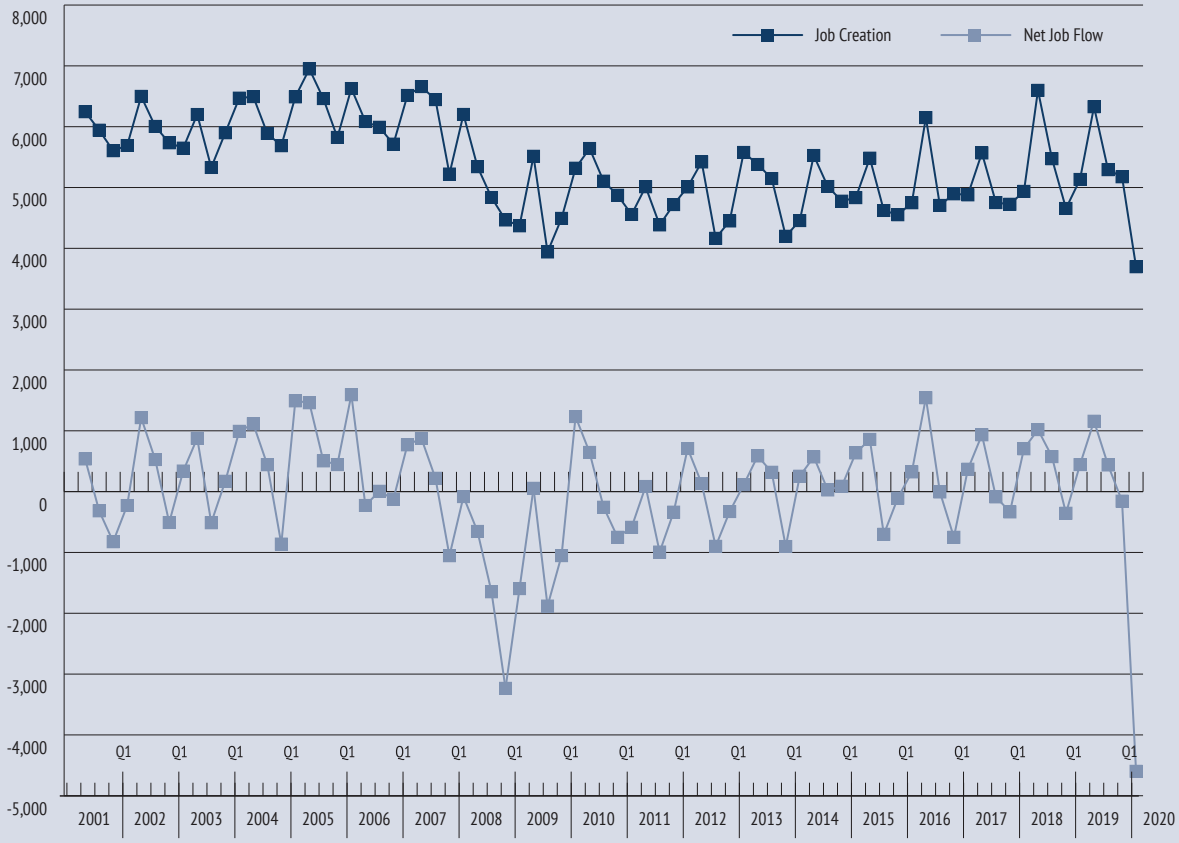


Source: Alabama Department of Labor and U.S. Census Bureau.

Job Creation and Net Job Flows

On average, 5,387 jobs were created per quarter from second quarter 2001 to first quarter 2020 (Figure 6.8). Quarterly net job flows averaged just six jobs due to massive job losses related to the COVID-19 led recession in the first quarter of 2020 (Figure 6.8). Job creation refers to the number of new jobs that are created either by new area businesses or through the expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses. Quarterly net job flows generally reflect trends in job creation over the period, and both have been fluctuating without significant gains since they declined due to the 2007 economic recession until the first quarter of 2019. As the COVID-19 pandemic spread across the region in the first quarter of 2020 causing a recession, both regional job creation and job flows dropped to record low levels. Quarterly net job flows have fluctuated considerably throughout the period, ranging from a loss of 4,598 to a gain of 1593.

Figure 6.8 Southeast AlabamaWorks Job Creation & Net Job Flows



Source: Alabama Department of Labor and U.S. Census Bureau.

High-Demand, Fast-Growing, High-Earning, and Sharp-Declining Occupations

Southeast AlabamaWorks has 633 single occupations based on 2018 to 2028 occupational projections. Table 6.9 shows the 40 occupations that are expected to be in high-demand, ranked by projected average annual job openings over the same period. About half of these occupations are related to three of the five largest employment sectors identified earlier: manufacturing, health care and social assistance, and accommodation and food services (Table 6.8). Thus, these sectors will continue to be major employers in the region.

The top five high-demand occupations are Combined Food Preparation and Serving Workers, Including Fast Food; Retail Salespersons; Laborers and Freight, Stock, and Material Movers, Hand; Heavy and Tractor-Trailer Truck Drivers; and Janitors and Cleaners, Except Maids and Housekeeping Cleaners. Six of the top 40 high-demand occupations are also in the top 20 fast-growing category. This means that these six occupations have a minimum annual growth rate of 1.63 percent, much faster than the regional and state occupational growth rates of 0.30 percent and 0.48 percent, respectively.

The 20 fastest growing occupations ranked by projected growth of employment are listed in Table 6.10. Many of these occupations are related to the health care and social assistance industry. The top five fast-growing occupations are Dental Laboratory Technicians; Orthotists and Prosthetists; Medical Appliance Technicians; Occupational Therapy Assistants; and Physician Assistants.

Table 6.11 shows the top 50 selected highest earning occupations in the region. The top 50 high-earning occupations paid a minimum average salary of $82,162 per year and maximum of $306,097. These occupations are mainly in management, health, and computer fields. Seven of the top 10 listed are health occupations and the remainder are in management. Any discussion of earnings must consider that wages vary with experience. Occupations with the highest average wages may not necessarily have the highest entry-level wages.

The selected high-earning occupations are generally not fast-growing or in high-demand. Only one occupation—Nurse Practitioners—is in all three categories. Three occupations are in both high-demand and high-earning, and three are fast-growing and high-earning.

Of the region's 633 single occupations, 131 are expected to decline over the 2018 to 2028 period. Employment in the 20 sharpest-declining occupations will fall by at least three percent over the period (Table 6.12). No efforts should be made to sustain these occupations because they are declining as a result of structural changes in the economy of the region.

Table 6.9 Selected High-Demand Occupations (Base Year 2018 and Projected Year 2028)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Combined Food Preparation and Serving Workers, Including Fast Food	830	45	785
Retail Salespersons	660	15	645
Laborers and Freight, Stock, and Material Movers, Hand	465	20	445
Heavy and Tractor-Trailer Truck Drivers	450	15	440
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	290	10	280
Meat, Poultry, and Fish Cutters and Trimmers	275	10	260
Nursing Assistants	250	5	240
Registered Nurses	245	30	210
Cooks, Restaurant	200	20	185
Stock Clerks and Order Fillers	190	5	185
Helpers--Production Workers	185	15	170
General and Operations Managers	**180**	**10**	**170**
Personal Care Aides*	175	20	160
First-Line Supervisors of Food Preparation and Serving Workers	175	5	175
Light Truck or Delivery Services Drivers	165	10	155
Secondary School Teachers, Except Special and Career/Technical Education	160	5	155
Aircraft Mechanics and Service Technicians	155	10	150
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	155	10	150
Landscaping and Groundskeeping Workers	145	5	140
Receptionists and Information Clerks	140	5	140
Slaughterers and Meat Packers	135	5	125
First-Line Supervisors of Production and Operating Workers	130	5	125
Construction Laborers	120	5	115
Elementary School Teachers, Except Special Education	110	5	105
Maintenance and Repair Workers, General	105	5	100
Medical Assistants*	95	15	85
Licensed Practical and Licensed Vocational Nurses	90	5	90
Welders, Cutters, Solderers, and Brazers	90	10	85
Accountants and Auditors	90	5	85
Industrial Machinery Mechanics	75	5	70
First-Line Supervisors of Construction Trades and Extraction Workers	75	5	70
Medical Secretaries	60	5	55
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	50	5	40
Refuse and Recyclable Material Collectors	45	5	40
Pharmacy Technicians	45	5	40
Management Analysts	**45**	**5**	**40**
Taxi Drivers and Chauffeurs*	35	5	30
Home Health Aides*	35	5	30
Dental Laboratory Technicians*	25	15	15
Nurse Practitioners*	**20**	**5**	**15**

Note: Occupations are growth- and wages weighted and data are rounded to the nearest 5. Occupations in bold are also high-earning.
* Qualify as both high-demand and fast-growing occupations.
Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 6.10 Selected Fast-Growing Occupations (Base Year 2018 and Projected Year 2028)

Occupation	Employment		Percent Change	Annual Growth (Percent)
	2018	2028		
Dental Laboratory Technicians*	40	170	324.39	15.55
Orthotists and Prosthetists	NA	NA	183.33	10.98
Medical Appliance Technicians	NA	NA	63.64	5.05
Occupational Therapy Assistants	NA	NA	34.69	3.02
Physician Assistants	**50**	**70**	**29.41**	**2.61**
Hazardous Materials Removal Workers	NA	NA	27.03	2.42
Nurse Practitioners*	**260**	**320**	**23.66**	**2.15**
Speech-Language Pathologists	120	140	22.61	2.06
Physical Therapist Assistants	170	200	22.29	2.03
Radio, Cellular, and Tower Equipment Installers and Repairers	NA	NA	20.88	1.91
Taxi Drivers and Chauffeurs*	260	310	20.85	1.91
Personal Care Aides*	1,020	1,220	19.92	1.83
Home Health Aides*	230	280	18.88	1.74
Packaging and Filling Machine Operators and Tenders	100	120	18.63	1.72
Medical Assistants*	680	800	18.61	1.72
Phlebotomists	150	170	18.37	1.70
Nonfarm Animal Caretakers	180	220	18.03	1.67
Respiratory Therapists	200	230	17.95	1.66
Market Research Analysts and Marketing Specialists	200	240	17.65	1.64
Software Developers, Applications	**NA**	**NA**	**17.50**	**1.63**

Note: Employment data are rounded to the nearest 10 and job openings are rounded to the nearest 5. Occupations in bold are also high-earning.
* Qualify as both high-demand and fast-growing occupations.
Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 6.11 Selected High-Earning Occupations (Base Year 2018 and Projected Year 2028)

Occupation	Employment		Annual Growth (Percent)	Average Annual Job Openings	Mean Annual Salary ($)
	2018	2028			
Anesthesiologists	NA	NA	0.54	0	306,097
Physicians and Surgeons, All Other	370	390	0.37	10	260,009
Internists, General	NA	NA	0.00	0	230,224
Family and General Practitioners	60	60	0.50	0	207,563
Dentists, General	90	100	0.74	5	195,399
Chief Executives	190	170	-0.84	10	178,850
Nurse Anesthetists	90	100	1.42	5	165,650
Architectural and Engineering Managers	90	90	0.68	10	164,543
Pharmacists	300	310	0.03	15	132,255
Training and Development Managers	NA	NA	0.00	0	129,984
Financial Managers	240	270	1.32	25	121,912
Engineers, All Other	90	90	0.34	5	115,530
Sales Managers	140	140	0.44	15	115,295
Computer and Information Systems Managers	150	160	0.71	15	115,087
Administrative Services Managers	80	80	0.39	5	114,809
Computer Hardware Engineers	50	50	0.82	5	114,182
Psychologists, All Other	20	20	0.00	0	112,211
Physician Assistants	**50**	**70**	**2.61**	**5**	**111,699**
Purchasing Managers	30	30	0.61	5	109,169
Electrical Engineers	240	260	0.76	20	108,584
Transportation, Storage, and Distribution Managers	70	70	0.45	5	108,060
Airline Pilots, Copilots, and Flight Engineers	240	240	-0.13	25	107,667
Industrial Production Managers	220	240	0.53	20	107,255
Human Resources Managers	70	70	0.15	5	106,770
Managers, All Other	720	730	0.17	55	105,587
Air Traffic Controllers	90	90	-0.22	10	105,164
Computer Network Architects	NA	NA	-0.64	0	104,482
General and Operations Managers*	1,900	2,010	0.56	180	103,448
Lawyers	320	320	0.22	15	101,386
Marketing Managers	40	40	0.51	5	101,294
Construction Managers	360	370	0.39	25	100,760
Personal Financial Advisors	180	190	0.55	15	100,623
Medical and Health Services Managers	270	300	1.01	25	100,613
Architects, Except Landscape and Naval	80	80	0.37	5	100,234
Education Administrators, Elementary and Secondary School	260	270	0.31	20	97,815
Management Analysts*	400	450	1.09	45	95,532
Public Relations and Fundraising Managers	20	30	1.99	5	94,951
Education Administrators, Postsecondary	200	210	0.68	15	94,243
Nurse Practitioners*	**260**	**320**	**2.15**	**20**	**94,243**
Education Administrators, All Other	130	130	-0.31	10	93,801
Physical Therapists	220	250	1.38	15	93,787
Mechanical Engineers	180	200	1.00	15	93,428

Table 6.11 Selected High-Earning Occupations (Base Year 2018 and Projected Year 2028) Continued

Power Distributors and Dispatchers	60	60	0.00	5	90,066
Civil Engineers	250	260	0.35	20	88,861
Industrial Engineers	320	360	1.08	25	83,940
Software Developers, Applications	**NA**	**NA**	**1.63**	**20**	**83,919**
Software Developers, Systems Software	60	60	0.33	5	83,919
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	70	70	0.45	5	83,393
Postmasters and Mail Superintendents	30	20	-2.11	0	82,897
Avionics Technicians	290	300	0.61	25	82,162

Note: Employment and salaries data are rounded to the nearest 10; job openings to the nearest 5. The salary data provided are based on the May 2019 release of the Occupational Employment Statistics (OES) combined employment and wage file. Estimates for specific occupations may include imputed data.
* Qualify as both high-earning and high-demand occupations. NA – Not available due to disclosure limitations.
Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Table 6.12 Selected Sharp-Declining Occupations (Base Year 2018 and Projected Year 2028)

Occupation	Employment		Net Change	Percent Change
	2018	2028		
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	3,590	3,260	-330	-9
Cashiers	5,850	5,680	-170	-3
Office Clerks, General	2,400	2,280	-120	-5
Inspectors, Testers, Sorters, Samplers, and Weighers	690	580	-110	-16
Bookkeeping, Accounting, and Auditing Clerks	1,700	1,620	-80	-5
Cooks, Fast Food	430	370	-60	-15
Tellers	860	800	-60	-7
Sewing Machine Operators	360	300	-60	-16
Postal Service Mail Carriers	460	420	-40	-9
Legal Secretaries	270	230	-40	-16
Executive Secretaries and Executive Administrative Assistants	150	120	-30	-21
Data Entry Keyers	110	90	-20	-23
Structural Metal Fabricators and Fitters	210	190	-20	-12
Pressers, Textile, Garment, and Related Materials	40	30	-10	-23
Respiratory Therapy Technicians	NA	NA	NA	-54
Telemarketers	NA	NA	NA	-23
Switchboard Operators, Including Answering Service	NA	NA	NA	-25
Computer Operators	NA	NA	NA	-29
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	NA	NA	NA	-17
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	NA	NA	NA	-28

Note: Employment data are rounded to the nearest 10.
Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Skills and Skills Gap Analyses

Jobs require skill sets and it is necessary that jobholders have the relevant skills. Table 6.13 shows skill types and definitions as provided by O*NET Online, which offers skill sets for all occupations ranked by the degree of importance. High-earning occupations typically require skills that are obtained in pursuit of the higher education that such jobs require. Lower earning occupations require more basic skill sets. Some occupations have no minimum skill set requirements (e.g. dishwashers and maids).

Table 6.14 shows the percentage of selected occupations in the region that list a particular skill as primary. We define primary skills as the 10 most important skills in the required skill set for an occupation. It is important to note that a particular skill may be more important and more extensively used in one occupation than another. Table 6.14 does not address such cross-occupational skill importance comparisons. In general, basic skills are most frequently listed as primary, which means that they are important for practically all jobs.

High-earning occupations require more critical thinking, math, science, speaking, writing, complex problem solving, personnel resources management, management of financial resources, negotiation, persuasion, negotiation, judgment and decision making, system analysis, systems evaluation, and operations analysis skills than both high-demand and fast-growing jobs. Some of these skills require long training periods and postsecondary education. Fast-growing occupations require more basic, complex problem solving and systems skills than high-demand occupations, while high-demand occupations require more resource management skills.

Table 6.15 shows skill gap indexes for all 35 skills in Table 6.14 based on occupational projections for 2018 to 2028. Skills gap indexes range 0 to 100 and are standardized measures of the gap between current supply and projected demand. The index does not provide any information about current or base year skill supply. It focuses on the projection period and identifies critical skill needs. The index essentially ranks expected training needs. The higher the index the more critical the skill over the specified projection period and a higher skill gap index indicates a need to increase the scale of training.

For policy and planning purposes, skills gap indexes have to be considered together with replacement indexes, which are the expected shares of job openings due to replacement. Replacement is necessary because of turnover and people leaving the labor force. The smaller the replacement index, the larger the share of job openings due to growth, which in turn implies a need to increase the pace of skill training. Skill gap indexes demonstrate the need to ramp up the scale of skill training while replacement indexes address the pace of training.

The skill gap indexes show that for Southeast AlabamaWorks basic skills are most critical followed by social, complex problem solving, systems, resource management, and technical skills. The importance of basic skills generally and for fast-growing, high-demand, and high-earning jobs indicates a strong need for training in these skills. The pace of training needs to increase for technical and basic (science) skills, and the scale of training should be raised for basic and social skills.

Table 6.13 Skill Types and Definitions

Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge.

- Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.
- Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- Learning Strategies – Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
- Mathematics – Using mathematics to solve problems.
- Monitoring – Monitoring / Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.
- Science – Using scientific rules and methods to solve problems.
- Speaking – Talking to others to convey information effectively.
- Writing – Communicating effectively in writing as appropriate for the needs of the audience.

Complex Problem Solving Skills: Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.

- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Resource Management Skills: Developed capacities used to allocate resources efficiently.

- Management of Financial Resources – Determining how money will be spent to get the work done and accounting for these expenditures.
- Management of Material Resources – Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
- Management of Personnel Resources – Motivating, developing, and directing people as they work, identifying the best people for the job.
- Time Management – Managing one's own time and the time of others.

Social Skills: Developed capacities used to work with people to achieve goals.

- Coordination – Adjusting actions in relation to others' actions.
- Instructing – Teaching others how to do something.
- Negotiation – Bringing others together and trying to reconcile differences.
- Persuasion – Persuading others to change their minds or behavior.
- Service Orientation – Actively looking for ways to help people.
- Social Perceptiveness – Being aware of others' reactions and understanding why they react as they do.

Systems Skills: Developed capacities used to understand, monitor, and improve socio-technical systems.

- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Systems Analysis – Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- Systems Evaluation – Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Technical Skills: Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.

- Equipment Maintenance – Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- Equipment Selection – Determining the kind of tools and equipment needed to do a job.
- Installation – Installing equipment, machines, wiring, or programs to meet specifications.
- Operation and Control – Controlling operations of equipment or systems.
- Operation Monitoring – Watching gauges, dials, or other indicators to make sure a machine is working properly.
- Operations Analysis – Analyzing needs and product requirements to create a design.
- Programming – Writing computer programs for various purposes.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Repairing – Repairing machines or systems using the needed tools.
- Technology Design – Generating or adapting equipment and technology to serve user needs.
- Troubleshooting – Determining causes of operating errors and deciding what to do about it.

Source: O*NET Online (http://online.onetcenter.org/skills/).

Table 6.14 Percentage of Selected Occupations for Which Skill Is Primary

	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Basic Skills			
Active Learning	20	55	44
Active Listening	70	100	86
Critical Thinking	68	80	82
Learning Strategies	5	5	4
Mathematics	0	5	12
Monitoring	63	85	52
Reading Comprehension	53	85	82
Science	3	5	14
Speaking	70	90	84
Writing	20	35	44
Complex Problem Solving Skills			
Complex Problem Solving	23	45	66
Resource Management Skills			
Management of Financial Resources	0	0	2
Management of Material Resources	0	0	0
Management of Personnel Resources	8	0	14
Time Management	33	25	26
Social Skills			
Coordination	45	50	38
Instructing	13	10	6
Negotiation	8	0	16
Persuasion	8	5	14
Service Orientation	33	55	16
Social Perceptiveness	50	65	42
Systems Skills			
Judgment and Decision Making	23	45	68
Systems Analysis	0	5	8
Systems Evaluation	3	5	8
Technical Skills			
Equipment Maintenance	10	5	2
Equipment Selection	5	0	0
Installation	0	5	0
Operation and Control	23	15	4
Operation Monitoring	20	25	6
Operations Analysis	0	5	12
Programming	0	5	2
Quality Control Analysis	8	10	2
Repairing	8	5	2
Technology Design	0	0	0
Troubleshooting	10	10	2

Note: Rounding errors may be present.
Source: O*NET Online and Center for Business and Economic Research, The University of Alabama

Education and Training Issues

Educational attainment in Southeast AlabamaWorks is lagging behind that of the state as a whole. About 84 percent of residents age 25 and over graduated from high school in 2015 to 2019, compared to 86 percent for Alabama. Of the age 25 and over population, about 19 percent had a bachelor's or higher degree versus 26 percent for the state. Skill and education requirements for jobs keep rising, which highlights a strong need to raise educational attainment in the entire region.

Table 6.16 shows the number of selected occupations in the region for which a particular education/training category is most common. In general, high-earning occupations require high educational attainment levels; only five high-earning occupations do not require a bachelor's or higher degree. Ten (50.0 percent) of the top 20 fast-growing occupations require an associate degree at the minimum and six (30.0 percent) require a bachelor's or higher degree. Of the top 40 high-demand occupations, seven (17.5 percent) require at least an associate degree and only one requires a bachelor's or higher degree. Most of the high demand occupations in the area require on the job training as opposed to advanced educational training.

Future jobs will require postsecondary education and training at a minimum. Current job ads are asking for at least a high school diploma or GED. Of the region's 633 occupations, 131 are expected to decline over the projection period. The 20 sharpest-declining occupations will drop by a minimum of 10 jobs each (for those with disclosed net change) and at least three percent over the period. Education and training for these should slow accordingly.

Table 6.15 Skills Gap Indexes (Base Year 2018 and Projected Year 2028)

Skill	Skill Type	Total Openings (Projected Demand)	Skills Gap Index	Replacement Index
Active Listening	Basic	13,660	74	97
Speaking	Basic	13,635	73	97
Monitoring	Basic	11,680	63	97
Critical Thinking	Basic	10,590	57	96
Social Perceptiveness	Social	10,375	56	97
Service Orientation	Social	10,285	56	98
Coordination	Social	10,105	55	96
Time Management	Resource	9,300	50	96
Reading Comprehension	Basic	9,225	50	97
Judgment and Decision Making	Systems	6,820	37	96
Writing	Basic	6,435	35	97
Active Learning	Basic	6,190	34	95
Complex Problem Solving	Complex	5,620	31	94
Persuasion	Social	4,355	24	96
Instructing	Social	4,090	22	94
Negotiation	Social	3,670	20	97
Learning Strategies	Basic	3,470	19	95
Operation Monitoring	Technical	3,385	19	96
Operation and Control	Technical	3,140	17	96
Systems Analysis	Systems	2,715	15	94
Systems Evaluation	Systems	2,485	14	95
Mathematics	Basic	2,460	14	99
Quality Control Analysis	Technical	2,315	13	97
Management of Personnel Resources	Resource	2,245	13	97
Troubleshooting	Technical	1,915	11	96
Equipment Maintenance	Technical	1,290	7	95
Repairing	Technical	955	6	94
Management of Financial Resources	Resource	620	4	96
Equipment Selection	Technical	600	4	92
Management of Material Resources	Resource	505	3	95
Operations Analysis	Technical	435	3	91
Installation	Technical	250	2	92
Science	Basic	235	2	79
Programming	Technical	80	1	88
Technology Design	Technical	45	1	78

Note: These are annualized skills indexes based on 2018 to 2028 occupation projections.
Source: Center for Business and Economic Research, The University of Alabama, Alabama Department of Labor, and O*Net Online

Table 6.16 Number of Selected Occupations by Education/Training Requirement

Most Common Education/Training Requirements Categories	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Doctoral Degree or First Professional Degree	0	0	8
Master's Degree	1	4	6
Bachelor's Degree	0	2	31
Associate Degree	6	4	2
Postsecondary Non-Degree	6	2	0
Some College, no Degree	0	0	0
High School Diploma or Equivalent	16	7	3
No Formal Educational Credential	11	1	0

Source: O*NET Online; Center for Business and Economic Research, The University of Alabama; and Alabama Department of Labor.

IMPLICATIONS AND RECOMMENDATIONS

Employment is expected to grow while the prime working age group (20-64) is projected to decline. From a 2018 base, worker shortfalls of about 14,300 and 18,100 are estimated for 2028 and 2030, respectively (Table 6.17). The expected worker shortfall will reach about 29,500 by 2040. A focus on worker skills and the projected shortfalls must be the priorities through 2040. Worker shortfalls for critical occupations will also need to be continuously addressed through the period.

Table 6.17 Expected Worker Shortfall

	2018-2028	2018-2030	2018-2035	2018-2040
Total population growth (percent)	1.0	1.2	1.8	2.5
Age 20-64 growth (percent)	-4.8	-5.3	-4.4	-3.4
Job growth (percent)	5.1	7.2	11.9	17.1
Worker shortfall (percent)	9.9	12.5	16.3	20.5
Worker shortfall (number)	14,289	18,054	23,524	29,471

Source: Center for Business and Economic Research, The University of Alabama.

Since employment is critical to economic development, strategies to address skill needs and worker shortfalls must be adopted and implemented. Such strategies should aim at increasing labor force participation, encouraging in-migration, and raising worker productivity. Efforts to address the need for higher labor force participation, higher productivity, and faster labor force growth to meet workforce demand must include: (1) improving education and its funding; (2) introducing economic opportunities that attract new and younger residents; (3) lowering the high school dropout rate; (4) focusing on hard-to-serve populations (e.g. out-of-school youth); (5) continuing and enhancing programs to assess, retrain, and place dislocated workers; (6) encouraging older worker participation in the labor force; and (7) facilitating in-commuting.

Improving education is vital because a highly educated and productive workforce is a critical economic development asset. The educational and training requirements of high-demand, fast-growing, and high-earning occupations show the significance of education in developing the future workforce. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs in particular demonstrates a strong need for training in these skills. The pace of training needs to increase for technical, basic (science), and systems skills, while the scale of training should be raised for basic and social skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills while enhancing these basic skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps. Education and training for the 20 sharp-declining occupations in Table 6.12 should slow accordingly.

Another very important reason to improve education is that more educated people are more likely to work; data on worker participation and educational attainment show that labor force participation increases with worker education. Productivity also rises with education, which yields high private and social returns. Workforce development must view all of the education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and must provide for flexibility as workforce needs change over time and demand different priorities.

Programs to assess, retrain, and place dislocated workers—especially those affected by outsourcing and structural changes in the economy—should be continued and enhanced because they can improve the labor force participation rate. Hard-to-serve populations include out-of-school youth, persons in poverty, those receiving welfare, residents of sparsely populated areas, and those on active parole. These populations are often outside of the mainstream economy and are poor. They usually have difficulty finding work because of low levels of educational attainment, geographic or other barriers, or a lack of occupational skills. They are a potential human resource,

but investment in training, transportation, childcare, infrastructure, etc. may be needed to tap this resource.

In-migration is one way of growing the labor force, as it helps population growth. The region's population is growing much slower than the state's, and the prime working age population is expected to decline. This is likely to hinder the Southeast AlabamaWorks region's ability to meet long term expected job demands. Higher employment demand could be partially served by in-commuting. However, new residents can be attracted using higher-paying job opportunities from the region's economic development successes. Investment in amenities and infrastructure may be needed to support such growth. In-migration is preferred to in-commuting since it grows the economy faster and adds to the tax base.

Policies that facilitate and encourage older worker participation are needed as older workers can help meet the region's workforce challenge. Such policies can be related to income taxation, job flexibility, and retirement programs. As the share of older people in the population is projected to increase, it becomes even more important that they be active in the workforce. Older worker participation has been rising nationally since the early 1990s. This has been attributed to reasons including:

- Older workers can work longer because they are healthier.
- The number of physically demanding jobs is falling.
- Defined contribution plans are replacing pensions.
- There are fewer employer-paid retiree health insurance programs.
- Social security reforms affecting those born after 1938 (i) gradually raise the normal retirement age from 65 to 67, (ii) increase the rate at which monthly payments rise with delayed benefits, and (iii) eliminate the reduction in benefits for those working beyond the full retirement age.

Diversifying the region's economy will strengthen it. This demands that economic development also focus on retaining, expanding, and attracting businesses that provide more high-earning jobs. Current workers—including the underemployed—would welcome higher-earning opportunities. An economic development focus on diversification would require that workforce development pay attention to postsecondary and higher educational systems to ensure a ready and available workforce for new and expanding businesses. The higher incomes earned by graduates of these institutions would help raise personal income for the region and provide additional local (county and city) tax revenue. Raising personal income by improving educational attainment and technological skills for a region that has low population and labor force growth rates is an effective economic development strategy. Together, workforce development and economic development can build a strong, well-diversified economy. Indeed, one cannot achieve success without the other.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